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# THE KARTELL MOVEMENT IN THE GERMAN POTASH INDUSTRY<sup>1</sup>

## SUMMARY

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## I. INTRODUCTORY

THE actual source of the world's potash supply is at present in the deposits of potash salts found in northern Germany. The great Stassfurt potash industry is based on the presence of those salts in the

<sup>1</sup> Among recent publications on the subject, the following have been especially helpful:

Krische, Dr. Paul, "Die Verwertung des Kalis," in *Industrie und Landwirtschaft*, 1908.

Stange, Dr. A., *Fünfzig Jahre Deutschlands Kali-industrie*, Jubilaeumsschrift, 1911.

Paxmann, H., *Die Kali-industrie in ihrer Bedeutung und Entwicklung*, 1899.

Pfeiffer, E., *Handbuch der Kali-industrie*, 1887.

Passow, Dr., *Materialien des wirtschaftlichen Studiums*, bd. ii.

Groth, L. A., *The Potash Salts*, 1902.

so-called Magdeburg-Halberstadt rock salt basin.<sup>1</sup> Smaller and commercially unimportant are the deposits of the same type found in Galicia, Chili, Persia, and Eastern Asia. Germany thus possesses a practically complete monopoly of potash salts. Their solubility and the ease with which they can be converted into concentrated products are the qualities which have made the world envious of Germany's possession of this great resource.<sup>2</sup>

The story of the discovery and development of these deposits is interesting. For hundreds of years salt springs had attracted attention in the Stassfurt region. At length, after a number of unsuccessful attempts in the decade 1850 to 1860, rock salt was discovered after penetrating several strata of peculiar bitter salts. The salts designated "Abraumsalze," were regarded as worthless, — an obstruction to the mining of rock salt. Professor Marchand showed that they contained certain valuable elements, whereupon the Prussian government started to sink a shaft in 1858 for the purpose of mining them. Small quantities of the crude salts were subjected to a process of concentration and sold for industrial uses. The success which attended the opening of the Prussian mine induced the Grand

Schulze, H., *Die Chemische Industrie in Deutschland*, 1908.

Schönemann, *Die deutsche Kali-industrie und das Kaligesetz*, 1911.

Heimann, R., "Die neuere Entwicklung der Kali-industrie und des Kalisyndikats," in *Schmoller's Jahrbuch*, 1906.

Engelke, G., *Das deutsche Kalikartell in seiner Entwicklung und gegenwärtigen Gestalt*. Schriften des Vereins für Sozialpolitik, bd. ix, 1894.

Valuable material is found also in the *Kartell-Rundschau* (since 1903); the *Kartell-Jahrbuch* (bd. i, ii); the *Berliner Jahrbücher für Handel und Industrie* (published by the Aeltesten der Kaufmannschaft, since 1903); the *Deutsche Oekonomist*; and the *Drucksachen des deutschen Reichstages*.

<sup>1</sup> See brief description in Engelke (p. 45), Heimann (p. 1489), and in the books of Krische, Paxmann, and Pfeiffer. I refer to these sources also for the historical sketch that follows.

<sup>2</sup> On the various endeavors, all virtually unsuccessful, to find sources of potash supply in the United States, see *Fertilizer Resources of the United States*, prepared by the U. S. Department of Agriculture and published as Senate Document 190, 62d Congress, 2d Session (1912).

Duchy of Anhalt to open a second one, which began operations in 1862. But the value of the "Abraumsalze" was immensely enhanced when, after a series of painstaking investigations, Dr. Frank, assisted by Justus von Liebig, demonstrated their value for fertilizing purposes. These discoveries inaugurated a new era for the Stassfurt industry, which now, by reason of its lower cost of production, possessed a great advantage over other sources of potash. The price of muriate of potash, which ranged from \$75 to \$100 per metric ton in 1862, fell to one-third that price in 1864 and 1865.

At present only the potash salts with the highest potash content are mined. Of these, the most important are carnallite, kainite, hard salts, and sylvin. Carnallite is a hydrated double salt of muriate of potash and magnesium chloride, used especially as the basic salt for concentration into muriate of potash. Kainite is also a double salt containing potash in the form of sulphates and chlorides of potash mixed with sulphates and chlorides of magnesium. It is more valuable than carnallite and can be used directly as a fertilizer. Hard salts are a mixture of kieserite and kainite with sylvin. Sylvine is the most valuable of all the crude salts. Like hard salts it finds its chief employment in industry, while kainite is used chiefly in agriculture.

In the export trade the concentrated salts play a much more important part than the crude salts. Muriate of potash ( $KCl$ ) is the most important, being used in immense quantities as a fertilizer for sugar beet, cotton, and other crops. Sulphate of potash ( $K_2SO_4$ ) is manufactured in smaller quantities, of which a large part is absorbed by tobacco culture in the United States. Such potash products as carbonate of potash, manure salts, and the crude salts, bergkieserit, sylvinite, schönite, are of less importance.

The annual output of the German potash industry shows an extraordinary increase during the past half century, as is indicated by the following table: —

OUTPUT OF POTASH SALTS<sup>1</sup>

	In 1000 Metric Tons	Value in 1000 Marks
1862. . . . .	19.8	340
1870. . . . .	291.9	2,628
1880. . . . .	665.9	6,783
1890. . . . .	1274.9	16,500
1900. . . . .	3050.6	39,111
1905. . . . .	5043.5	60,391
1909. . . . .	7042.0	81,655

The production of muriate of potash also shows large increases. A significant change in the demand appears in the fact that, whereas in 1861 no potash was sold for agricultural purposes, by 1880 agriculture took 42.5 per cent of the total output and in 1905, 84.5 per cent. Altho the consumption of potash in the glass, soap, and other industries has increased in absolute amounts from year to year, it forms relatively a steadily diminishing portion.<sup>2</sup>

The United States is the largest consumer of potash outside of Germany itself. The increase in the importation of potash during the past twenty-five years has been marked. Owing to the frequent changes in classification it is difficult to obtain a comparable set of figures; but for muriate of potash, the most important of the products imported, the increase since 1884 has been nearly ten-fold.<sup>3</sup> Sulphate of potash and manure salts show a slower but still significant growth.

<sup>1</sup> Compiled by Schönemann from Vierteljahrshefte zur Statistik des Deutschen Reiches.

<sup>2</sup> New York Financial and Commercial Chronicle, vol. xc, p. 630, contains an interesting note in this connection.

<sup>3</sup> Value, 1884, \$729,484; 1912, \$7,229,109.

Nevertheless, the American consumption per acre of tillable land is as yet only one-eighth of the consumption in Germany. Three-fourths of the potash imported into the United States is used in the Atlantic and South Central states, in the form of commercial fertilizer, of which potash is a constituent.<sup>1</sup>

The potash trade in the United States is handled by the New York agency of the potash syndicate. Several groups of buyers may be distinguished.<sup>2</sup> First, the powerful fertilizer manufacturing corporations, of which the largest are the American Agricultural Chemical Co., of New York, and the Virginia-Carolina Chemical Co., of Richmond, both organized in the late nineties as combinations of existing fertilizer concerns. To these was added, in 1909, the International Agricultural Corporation, a result of the developments of 1906-09, which led the so-called independents to combine.<sup>3</sup> The Virginia company owns a controlling interest in the Einigkeit potash mine in Germany, while up to the end of 1912, the International owned the Sollstedt mine. A second group of potash buyers is formed by the large packing houses, which buy potash for their fertilizer plants, and the smaller independent fertilizer manufacturers. Finally there are manufacturers of chemicals, dry mixers and jobbers of fertilizer, farmers' associations, and local dealers.

<sup>1</sup> Cf. 12th Census, vol. v, p. cxxxix; Kriesche, pp. 154-157; Stange, pp. 154-155.

<sup>2</sup> Kartell-Rundschau, vol. ix, p. 83.

<sup>3</sup> For a history of the attempts which preceded, consult *American Fertilizer*, April, 1909; and July, 1909, p. 23.

## II. EARLY AGREEMENTS. THE FIRST SYNDICATE (1889-1898) <sup>1</sup>

Following the entry of the two fiscal potash mines into the field of potash production, the factories established by private individuals for the manufacture and concentration of the crude salts began in 1864 and 1865 to outstrip the capacity of the market to absorb their products. The number of enterprises had increased from three in 1862, to eleven in 1863 and eighteen in 1865. Commercial depression and over-production resulted in the failure of nearly a third of the companies in the latter year. Rapid recovery and subsequent prosperity again brought about, in 1871 and 1872, an increase of manufacturing facilities not warranted by demand. The decline in the price of muriate of potash which began in 1872, and lasted until 1874, put a number of factories out of business.<sup>2</sup> The pressure toward some sort of combination led to an agreement between the manufacturers in 1876, whereby prices were to be fixed weekly by a commission. With the resumption of prosperity in the following year, several of the members withdrew and the agreement came to an end.

In contrast, the development of the potash mines up to 1875 was one of steady progress.<sup>3</sup> But in that year, a third mine at Westeregeln, and a fourth, New-Stassfurt, in 1877, deprived the fiscal mines of Prussia and Anhalt of their monopoly in the production of crude salts. In view of the fact that any one of the four mines could, if necessary, supply the total demand, the

<sup>1</sup> In addition to the works already cited reference may be made to the *Denkschrift über das Kartellwesen*, bd. i, 1905, p. 77. The *Kartell-Rundschau* has given, since 1903, an account of current events in the potash syndicate.

<sup>2</sup> Pfeiffer, pp. 105 et seq.; Krische, p. 79.

<sup>3</sup> Paxmann, pp. 36 et seq.; Krische, pp. 79 et seq.

fiscal mines did not relish the idea of unrestrained competition. The expected happened. The alternative of free competition and low prices, sure to entail serious losses upon all of the mines, and eventually ruin to some, was rejected for combination. With the active coöperation of the Prussian fisc, the four mines, Stassfurt (Prussian fisc), Leopoldshall (Anhalt fisc), New-Stassfurt and Westeregeln, agreed to limit for five years the output of carnallite intended for concentration into refined salts.<sup>1</sup> Certain provisions as to the price of crude salts were included, but it was left open to the factories to fix the prices for concentrated products.<sup>2</sup> Between the three kainite producing mines a similar agreement was concluded in April, 1879, fixing prices and the total amount to be mined by each member.<sup>3</sup>

The success of the potash mines was an incentive to the investment of capital in new enterprises of the same sort. A mine at Aschersleben began operations in 1882, and threatened to rob those already in the field of their market. Westeregeln's notice in June, 1883, of withdrawal from the carnallite agreement led to its dissolution in October. However, after some negotiation efforts at securing a new agreement were successful, and on October 21, 1883, representatives of the five mines signed contracts renewing the previous one. As the Aschersleben mine also produced kainite, the necessary revision of the kainite agreement was made and Aschersleben became a member in 1884.<sup>4</sup>

<sup>1</sup> Also Engelke, p. 7.

<sup>2</sup> The proportion of the total output allotted to each mine was as follows:

Prussian Fisc .....	50 %
Anhalt Fisc .....	27.5%
New-Stassfurt .....	10 %
Westeregeln .....	12.5%

(Krische, p. 79.)

<sup>3</sup> Krische, p. 80; Schönemann, p. 6.

<sup>4</sup> Schönemann, pp. 6, 7; Krische, p. 80; Engelke, p. 9.



At the time a seventh mine, Hercynia at Vienenburg, became a party to the carnallite agreement, several changes were made. Special privileges, that of fixing the price of crude salts sold to the factories, and the right to veto a reduction or increase in allotments, were conceded to the Prussian government. The price-fixing privilege was of small importance except to the fiscal mines, since the private mines supplied only their own factories operated in connection with the mines.<sup>1</sup>

Shortly after the renewal of the carnallite agreement in 1883, the manufacturers of muriate of potash formed an association for marketing concentrated products.<sup>2</sup> As the supply of raw material was fixed by the mine owners, no restriction of production was necessary. The organization, somewhat more elaborate than in previous agreements, provided for a central sales office through which all the manufacturers agreed to market their products. The manager of the sales office, acting according to instructions formulated by a representative commission of manufacturers, effected sales, received orders, and assigned them to the members as nearly as possible in proportion to the quantities of raw material assigned to them by the mine owners' association. Occasional excesses or deficits were to be adjusted semi-annually. The commission fixed the price of muriate of potash, but could raise it only with the consent of the Prussian fisc.

The potash industry prospered during the decade following the formation of the first agreement. The combination, including as it did all the producers, had been able to keep up prices and, at the same time, increase the demand for potash. The addition of three new mines had not been a disturbing factor. The

<sup>1</sup> Engelke, pp. 8-10.

<sup>2</sup> Schönemann, p. 7; Krische, p. 80; Engelke, p. 9.

advantages of regulation had become too evident to allow a return of free competition upon the expiration of existing agreements. Strengthened by observation of the results of competition which had taken place between the pooled and independent muriate factories in the American market, the opinion became prevalent that a renewal of existing contracts was insufficient and that all products, crude and refined, should be included in a new and firmer agreement. Finally there was formed, during September and October, 1888, the first all-embracing potash Kartell or syndicate, upon the basis of seven separate contracts or agreements, the first four of which related to crude salts, the last three to refined products.<sup>1</sup>

The members of the syndicate proper were mine owners exclusively. Owners of special factories (*i. e.* factories not operated in connection with any particular mine) who were members of the muriate agreement of 1883, were compelled to observe the conditions prescribed in the last three contracts as to the production and sale of concentrated products. In return, they were assured an exclusive supply of raw material for the greater part of the syndicate's duration of ten years, with the warning that they would be cut off from all supplies if they were found to encourage the establishment of a new potash mine. The output of the special factories had been steadily decreasing, and when the Prussian fisc, which had operated no factory of its own, withdrew formally from the existing agreements to establish a factory in 1887, the business of the special factories had decreased to such an extent that they offered to pay the Anhalt fisc higher than current prices in order to secure crude salts. Consequently in 1888, the assurance of raw material was welcome to them.

<sup>1</sup> For a description of the contracts, see Krische, p. 81; Schönemann, p. 7; Engelke, pp. 12, 13.

The first two of the seven contracts (designated Ia and IIa) dealt with carnallite. A commission of representatives from the seven mines fixed the total amount to be mined and allotted it by percentage shares to the individual mines.<sup>1</sup> Minor provisions regulated the raising and lowering of quotas. Kainite containing 12.4% pure potash was chosen as a basis for the calculation of allotments. The kainite contracts (IIa and IIb) dealt similarly with the allotment of production, but since kainite, unlike carnallite, is sold in its crude state for agricultural purposes, its sale was placed in the charge of a central sales office, the producers agreeing to make no independent sales, to observe the terms of sale fixed by the central office, and to make regular and accurate reports. Selling prices were fixed by a committee of the associated mine owners, subject, however, to certain privileges conceded to the Prussian Minister of Commerce and Industry. He was given the right to name special prices for the supply used in domestic agriculture, whenever it should seem advisable in order to increase sales, or necessary for the welfare of German agriculture. The detailed provisions for the temporary transfer of allotments during disturbances in operation need not be mentioned here.

The last three contracts (Ic, Id, IIc) had substantially the same aim as the others, — the elimination of competition and the prevention of over-production. The special factories together with the factories of the mine owners were all subjected to the restrictions of a central

<sup>1</sup> The allotment in 1888 stood as follows: — (Schönemann p. 7).

Stassfurt .....	18 13/15%
Aschersleben .....	14 8/15%
Hercynia .....	7 3/15%
Leopoldshall .....	14 8/15%
Westeregeln .....	14 8/15%
New-Stassfurt .....	14 8/15%
Ludwig II .....	10 12/15%

sales agency, the orders being assigned and adjustments made as under former agreements. Prices and rebates were fixed by a general commission which was also empowered to dispose of quantities of muriate of potash, at specially low prices, or gratis, for propaganda purposes to chemists for experiment, for exhibitions, for the support of agricultural trade papers and the like. This was the beginning of a type of endeavor which has been most effective.

Since the administration of each of the basic agreements was in the charge of a separate committee, the management proved so unwieldy as to necessitate a reorganization in 1891. A centralized administration was introduced.<sup>1</sup> The general management, of which the representative of the Prussian fiscal mine was *ex officio* chairman, obtained broader powers; while a general commission, consisting of one representative from each mine, performed the duties of the several committees under the old arrangement, fixing prices, deciding important questions of organization and distribution, and imposing penalties for breach of contract. The general or business management was divided into three departments, each headed by an assistant director. One of these took charge of the domestic business and the transactions between the syndicate and the individual mines; another took the export trade; and the third, the statistical work and the propaganda movement. As before, orders were received and assigned and adjustments made at the central offices. The syndicate, which now styled itself "Verkaufssyndikat zu Leopoldshall-Stassfurt," established agencies in several German and foreign cities, while in others it gave certain dealers exclusive control. Up to 1893, the American trade had been controlled by two exclusive

<sup>1</sup> Schönemann, p. 9; Engelke, pp. 2 et seq.

dealers, but the syndicate's dissatisfaction with the growth of the American demand under their direction led to the establishment of a special agency in New York.<sup>1</sup>

During this syndicate period (1888-98) five new mines became members of the syndicate.<sup>2</sup> The fever of speculation from 1895 to 1898 did not pass the potash industry by. It is said that over a hundred boring companies were in operation and many shafts were sunk. The failure of not a few companies, and the depression at the close of the decade, led to the abandonment of many of the enterprises.<sup>3</sup> But in general the syndicate succeeded in increasing the sales of potash and in steadying the market. Tho it was not able to avoid over-production entirely during the difficult years, 1892-93, it prevented the industry from experiencing the worst effects. On the ground that the existing facilities were too large, the Prussian government advocated a restriction upon the establishment of new mines. The policy of restriction did not appeal to the legislature at that time. The debate on the 18th and 19th of April, 1894, in the Abgeordnetenhaus, was concerned chiefly with the question of whether or not the Prussian fisc would have influence enough, should restriction be adopted, to secure lower prices for domestic industry and agriculture; it ended with the rejection of a proposed law.

### III. THE SECOND AND THIRD SYNDICATES (1898-1904)

As might be expected, little opposition developed when the question of the continuance of the syndicate

<sup>1</sup> Engelke, p. 24.

<sup>2</sup> Krische, p. 84.

<sup>3</sup> The Mineral Industry, vol. vii, p. 571.

came up for decision in 1898. The agreement of that year differed from the preceding one in that a single comprehensive contract took the place of seven. The products were divided into four groups according to their potash content. The management of the syndicate was given greater freedom and authority by the adoption of the stock company form. Instead of a commission consisting of a representative from each mine, a supervisory council of fewer members was created. During the three year existence of the second syndicate, five mines were added to the membership.

Again, in 1901, renewal of the syndicate upon substantially the same basis as in 1898 was effected without difficulty. The opposition which was manifested concerned mainly the question of the admission of new mines into the syndicate. It was becoming apparent that the number of mines was increasing more rapidly than it was possible for the syndicate to increase sales.<sup>1</sup>

After 1901, however, the situation became serious. The depression of 1901 and 1902 resulted in a decrease of the syndicate's business, the effects of which were accentuated by the entrance of new mines.<sup>2</sup> From seven mines in 1888 and twelve in 1898, the number of producing mines had risen to twenty-four in 1902 and twenty-eight in 1903. The necessity of bringing all these into the syndicate, the unwillingness of the older mines to give up any part of their allotments in order to make room for new members, and the high demands of prospective members rendered the allocation of quotas a progressively difficult task. The market from 1902 to 1904 was unsettled. Both dealers and consumers

<sup>1</sup> Cf. article by Dr. Kreuzham, *Kartell-Rundschau*, vol. ix, pp. 1 et seq.; also *Krische*, pp. 47-52.

<sup>2</sup> *Kölnische Zeitung*, Dec. 20, 1902, quoted *K. R.*, vol. i, p. 53; and *K. R.*, vol. i, pp. 724-725.

delayed buying, toward the last, in the hope of obtaining lower prices in the event of the dissolution of the syndicate.

#### IV. THE SYNDICATE OF 1904-1909

Early in 1903, dealings of American potash purchasers with some of the newer mines which had not yet entered the syndicate gave rise to rumors, every disturbing to Germans, that the Americans intended to buy up potash properties and supply their own demands.<sup>1</sup> The subsequent entry of these mines into the syndicate quieted the fears for a short time, only to be again aroused by the report that the Virginia-Carolina Chemical Company was attempting through the Heldburg Company to obtain control of the Wintershall mine, in addition to its ownership of a controlling interest in the Einigkeit mine.<sup>2</sup> Tho this report was denounced as false it caused much resentment. It was said that the loss of the American market, which amounted to one-half of the total export trade, would be a calamity to the industry as well as lead to wanton dissipation of the natural resource.

At the instance of the Prussian fisc, negotiations aiming at the continuance of the syndicate, which expired in 1904, were taken up early, the first general meeting being called for May 8, 1903.<sup>3</sup> This early action, hastened it is said by the reports of the American "invasion," recognized that the renewal would not be effected as easily as on previous occasions. Altho the syndicate included all the operating mines (after the entrance of the mines Hohenfels, Kaiserroda, Einigkeit,

<sup>1</sup> Hannover Anzeiger quoted K.R., vol. i, p. 487.

<sup>2</sup> lxxv Chron. 81; lxxvi Chron. 1038.

<sup>3</sup> Berliner Jahrbücher, bd. i, 1904, p. 10.

and Bleicheroda, in January, 1903) this complete control was of short duration. Moreover the internal composition of the syndicate had been undergoing a change by the division of the members into two hostile groups, one composed of the older mines having comparatively large quotas and unwilling to submit to the decreases attendant upon the increase of syndicate membership, and the other made up of newer mines demanding larger quotas in some proportion to their alleged capacities.<sup>1</sup> According to a clause in the existing agreement, syndicate members were free after June 30, 1904, if renewal had not been accomplished by that date, to execute independent contracts for delivery after December 31, 1904. Consequently, all efforts were directed toward effecting a renewal by July 1, 1904, in order to avoid the complications which would inevitably arise should independent contracts be made.

At the general meeting, May 8, 1903, it was voted that the continuance of the syndicate was desirable and that the invasion of American capital must by all means be prevented. Two committees were chosen, one to discuss the draft of a new agreement, the other to take up the allotment question.<sup>2</sup> Following the admission of three new mines into the syndicate, the general meeting on November 3 took up the discussion of the proposed basis for renewal.<sup>3</sup> It was soon discovered that the chief point of dispute was the allotment question. A special committee, instructed to report at the next general meeting, was chosen to attempt to induce the various mines to agree to a compromise table of divisions. The committee found it impossible to accomplish anything. No less than eighteen out of

<sup>1</sup> Berliner Jahrbücher, 1904, p. 111.

<sup>2</sup> K. R., vol. i, p. 566.

<sup>3</sup> K. R., vol. i, p. 1121.



twenty-eight mines raised objections to a table of allotments submitted for inspection in November.

The second general meeting of syndicate <sup>1</sup> members on January 18, 1904, showed a sharp division on the allotment question between the two groups of mines.<sup>2</sup> The group of older mines declared it would not submit to any further reduction of allotments and demanded that the younger mines agree among themselves as to the division of the balance of the total output. The latter elected a committee to consider the matter, but the high demands of certain mines precluded a settlement.<sup>3</sup> Two general meetings, February 8 and 29, did not alter the state of affairs. After the mine Burbach gave formal notice of its intended withdrawal, some of the mines were deprived of the hope they had entertained that the agreement would be renewed according to a provision inserted in the contract that, should no member give notice of withdrawal before June 30, renewal would automatically take place.<sup>4</sup> Nevertheless the deadlock continued, each side accusing the other of a shameful display of selfishness.

Finally on June 27, a meeting called by the Prussian fisc convened in a sort of fatalistic hope that efforts would be successful. By June 30 minor questions had been disposed of and one by one the mines agreed to quotas assigned to them by a special commission. The government mines finally agreed to make concessions but the obstinacy of the representative of the Hedwigsburg mine brought the negotiations on that day to naught. The mine owners were brought together the next day; Hedwigsburg expressed willingness to enter the syndicate upon the somewhat more favorable

<sup>1</sup> K. R., vol. i, pp. 1201, 1157.

<sup>2</sup> K. R., vol. ii, p. 281.

<sup>3</sup> K. R., vol. ii, p. 310.

<sup>4</sup> *Berliner Jahrbücher*, 1904, p. 111.

terms offered.<sup>1</sup> Hohenfels had, in the interim, contracted with several American firms to deliver potash at prices considerably lower than those quoted by the syndicate.<sup>2</sup> This was adjusted, the syndicate assuming the contracts, and upon July first, the new syndicate was organized.

Upon August 11, the new syndicate (Kalisyndikat, G. m. b. H.) was entered in the commercial register at Bernburg as a limited liability company with a paid-up capital stock of 400,000 marks entirely owned by the members of the syndicate.<sup>3</sup> The adoption of the company form, merely a device to give juristic personality to the Kartell, was due to the desire to secure still firmer organization than had hitherto been possible. Potash products were regrouped into five groups, the first three of which included certain crude, mixed, and concentrated salts, the other two, crude salts. As before, members of the syndicate bound themselves to place the entire output of their establishments at the disposition of the central office which received and distributed orders. To increase the effectiveness of the syndicate's propaganda work, all individual trade marks were given up.

The administration of the syndicate was intrusted to three bodies: the general assembly (Generalversammlung) consisting of a representative from each mine; the supervisory council (Aufsichtsrat); and the syndicate

<sup>1</sup> K. R., vol. ii, pp. 542-544; *Berliner Jahrbücher*, 1904, pp. 111 et seq.

<sup>2</sup> Cf. article by C. H. MacDowell, of the Armour Fertilizer Works, one of the buyers. *American Fertilizer*, Feb. 25, 1911, pp. 31 et seq. Also K. R., vol. ii, pp. 542-544.

<sup>3</sup> The text of the agreement is found in the *Denkschrift über das Kartellwesen*, bd. i, 1905, pp. 503 et seq. (*Stenographische Berichte des deutschen Reichstages*. XI Legislaturperiode. II Session, 1905-06.) Summarized in Heimann, pp. 1494 et seq.; and in *Berliner Jahrbücher*, 1904, pp. 111-112.

management (Syndikatsvorstand). The general assembly was empowered to choose eight members of the council, to declare dividends, to determine the terms of sale, and, with some qualification, to amend the articles of the company. Any change in the prices of certain products, as well as any change affecting the privileges of the Prussian Minister of Commerce, required the votes of the government representatives to be among those concurring. Upon the supervisory council, of which the chairman was to be chosen by the Prussian Minister of Commerce and Industry, devolved the duty of selecting the officials composing the business management, and of exercising control over them. The syndicate managing staff (Geschäftsvorstand) consisted of a Generaldirektor, with three subordinate directors each in charge of one of the three departments into which the business was divided: namely, the central department, the agricultural bureau, and the business management proper, which again fell into four divisions dealing with (a) crude salts, (b) concentrated products, (c) American trade, (d) transportation. The Vorstand fixed prices annually, subject to the approval of the supervisory committee, upon the basis of kainite containing 12.4 per cent pure potash, the other prices being computed therefrom according to potash content. Export prices were to be higher for all except a few products with low potash content, — an exception of little importance since such products cannot be economically transported. By other provisions, the approval of the Prussian Minister of Commerce was made necessary for raising the base price. The right to quote special prices for German agricultural consumption was retained.

An arbitration board was established for the settlement of disputes. Penalties for breach of contract

took the form of fines ranging in amount from 100 to 300,000 marks. Appeal from the decision of the supervisory council was permitted. As security for the observance of contracts, each mine, except the fiscal establishments, was required to deposit 300,000 marks to the credit of the syndicate.

The fatal weakness of the syndicate contract lay in the fact that in it were incorporated no provisions for the admission of new members. In the anxiety lest the syndicate should not be continued, a most important question was glossed over and finally left unsettled. This defect was destined to cause constant difficulties.

The period of calm which followed the formation of the syndicate in 1904 was of short duration. The establishment of new mines, their increasing reluctance to enter the syndicate, and the difficulties and disturbance accompanying become the main features in the history of the potash industry. The syndicate led a precarious existence, threatened with destruction more than once in the course of the protracted negotiations connected with the entrance of certain mines into the organization.

When possible, the syndicate secured the assent of a prospective member to a provisional agreement and assigned a quota tentatively. Then began a process of higgling, the new mine demanding a high quota with the hope of obtaining eventually about what was desired, and occasionally enforcing its demands by threatening, or actually making, independent sales at low prices. The syndicate, on the other hand, commenced by offering a low quota with the intention of raising it if necessary. The fact that since 1900 the average output per mine had decreased in absolute amounts each year rendered the allocation of quotas the most difficult problem of syndicate management.

From 1900 to 1908, the average output per establishment decreased 41.5 per cent in quantity and 47.8 per cent in value.<sup>1</sup>

The speculation accompanying the revival of prosperity in 1905 found a favorable field in potash enterprises.<sup>2</sup> It was accentuated by the so-called Gamp law passed by the Prussian Diet for the purpose of preventing the multiplication of new mining enterprises. It was provided in this law that for two years from its enactment, no person should have the right to explore for, locate, or secure title to mining rights in the territory where Prussian mining law was binding. As it happened, Prussian mining law did not apply, in respect to potash salts, to Hanover, where all mining rights were the property of the landowner, not, as in Prussia, of the discoverer. Consequently, while the *lex Gamp* effectually checked potash exploration in Prussia, speculation merely shifted its base of operations to Hanoverian territory.<sup>3</sup> The purchase and sale of mineral rights, the lease of lands, and development on the royalty plan of land bearing potash, or supposed to bear it, furnished great opportunities for the promoter, and the basis for unprecedented potash speculation, and a flood of potash securities of which a gullible

<sup>1</sup> Year	Total Output in Millions of Doppelzentners	Total Value in Million Marks	No. of Concerns	Average Output per Concern	Average Value in Marks
1900	30.4	56.2	15	202,407	3,748,688
1901	34.3	59.1	19	180,604	3,112,027
1902	32.9	56.9	24	137,057	2,370,379
1903	36.6	64.1	28	130,865	2,289,602
1904	43.0	74.1	28	153,621	2,645,634
1905	48.3	81.6	32	151,021	2,551,336
1906	54.8	91.7	36	152,093	2,546,777
1907	55.8	93.4	41	136,092	2,278,587
1908	59.2	97.8	50	118,315	1,956,264

Dr. Kreuzham, in *Kartell-Rundschau*, 1911. — The doppelzentner contains 205 lbs.

<sup>2</sup> Heimann, pp. 1551 et seq.

<sup>3</sup> Heimann, pp. 1514, 1520, 1521; *Berliner Jahrbücher*, 1905, p. 120.

public never seemed to get enough. The *Gewerkschaft*,<sup>1</sup> a form of association in favor for mining enterprises, was, owing to a peculiarity in Hanoverian law, impossible to organize in that state. Nevertheless, the device of buying up the charters of small or defunct *Gewerkschaften* in Prussia and other states enabled promoters to circumvent the law, and gave rise to a flourishing trade in charters. Further, the *lex Gamp* did not affect mining rights already granted. Many enterprises, abandoned after the activity of the years following 1898, became once more objects of public favor and speculation.

It is impossible here to describe the negotiations connected with the admission of the various mines to the syndicate. But the case of Sollstedt, tho not typical, is of special interest because of the part played by it in the international complication of later years. In 1905, the Sollstedt mine, owned by H. Schmidtman, began producing, and made its entrance into the syndicate conditional upon the adoption of certain reforms in the policy of the syndicate, among other things urging the adoption of a lower price basis.<sup>2</sup> Altho the opposition claimed that these reform demands were merely a cloak to hide the real demand for a large quota, one cannot deny that a policy of lower prices, in order to remove the incentive to the increase in the number of mines, was entitled to serious consideration.

Unable to secure the assent of the syndicate to his proposals, Schmidtman closed contracts late in 1905 with several American potash buyers. When it became known that the syndicate was granting larger discounts

<sup>1</sup> The *Gewerkschaft* is divided into shares called *Kuxe*, each of which represents a definite fraction (e.g., 1/100, 1/128, 1/1000, etc.) of the capital. There is, of course, no fixed par value. The *Kuxe* are assessable.

<sup>2</sup> Cf. K. R., vol. iv, 1906, pp. 24, 93, 94, 208. Cf. also Statement in behalf of the Potash Syndicate, issued Jan. 20, 1911.

to the great fertilizer corporations, the Independent Fertilizer Manufacturers Association, consisting of some sixty-five companies, was formed and proceeded to contract with Sollstedt for more potash.<sup>1</sup> In all, the contracts called for the annual delivery of about 50,000 tons of pure potash at prices which, tho not specified, were guaranteed to be as low as those currently paid by the large fertilizer corporations. According to the prices paid for potash, American buyers might now have been divided into several groups: — first, the two large fertilizer corporations, receiving discounts of 11 and 13 per cent; next, the group of Sollstedt's customers, some of whom were under obligation to secure their potash from the syndicate up to Jan. 1, 1910 (deliveries to these were not to begin until 1910); other buyers, bound by contract to take their total potash requirements from the syndicate at discounts of 5 and 7 per cent; and buyers under no obligations and paying the current prices.

Schmidtman was much criticized for his action. He was accused of lack of patriotism, of wasting a great natural resource for the benefit of a foreign nation instead of conserving it for the welfare of the German people. Since geological experts estimate the supply of potash salts to be sufficient to supply the world for 600,000 years, the ever-recurring arguments bearing on the subject of exhaustion have little force.<sup>2</sup> The true explanation of the hostile attitude against Schmidtman and other mine owners who made low price sales to foreign customers, and against foreigners who attempted to buy potash mines, seems to be the belief that the possession of a natural monopoly ought to enable the nation to secure monopoly gains.

<sup>1</sup> American Fertilizer, Feb. 25, 1911, pp. 31 et seq.

<sup>2</sup> Estimate of Ochsenuis. Cf. also, in this connection, xci Chron. 1515-1516.

At the close of 1905, Sollstedt was more unlikely than ever to enter the syndicate. Toward the end of January, 1906, there was serious talk of dissolving the combination. In the course of the negotiations the syndicate issued an ultimatum, offering quotas to Sollstedt and two other "outsiders," under threat that should the offer not be accepted, steps to effect the dissolution of the organization would immediately be taken. Schmidtman in answer to this declared that the size of the quota was a minor matter, and that he was mainly concerned with the reforms in organization and in the price policy. No definite action as to dissolution of the syndicate followed. Negotiations were continued. The general meeting of the syndicate refused Schmidtman's proposal to lower prices, and during the latter part of the year, the Sollstedt conflict, as it came to be known, was allowed to lag. The situation, critical as it was, was aggravated by the syndicate's difficulties with other mines, especially with Deutsche Kaliwerke,<sup>1</sup> which also presented a number of reforms as the condition of its entrance. The crisis became so acute that a number of mines were ready to give notice of withdrawal from the combination as soon as any mine except Sollstedt should sell a single doppelzentner independently.<sup>2</sup> Despairing of inducing Sollstedt to enter, it was proposed to make use of Sollstedt and Schmidtman's connection with the mine Aschersleben (a member of the syndicate) to bring a suit for damages, alleged to have been suffered by the syndicate through the connection of the syndicate member, Aschersleben, with the outsider, Sollstedt. Schmidtman, in his capacity as chairman of the supervisory board of Aschersleben, had carried through several transactions connected with the development

<sup>1</sup> K. R., vol. v, pp. 33, 103, 306, 307.

<sup>2</sup> K. R., vol. v, p. 307.



of Sollstedt, by the aid of Aschersleben funds; the shares of Sollstedt had been subsequently purchased by Aschersleben.<sup>1</sup> It is unnecessary to go into detail; the upshot of the matter was that a number of stockholders of Aschersleben formed a protective association and attempted to oust Schmidtman. However, the affair began to clear up, and on May 10, Sollstedt agreed to enter the syndicate, the reform demands being postponed for later discussion and decision. The statement made later in connection with the potash controversy,<sup>2</sup> that pressure of public opinion and fear of government intervention caused Sollstedt finally to enter the syndicate, seems to be only partially supported by fact. Government intervention had been advocated, but for a different purpose, that of checking the increase of new mines, not the regulation of those already in existence.

By the terms of settlement, Sollstedt continued deliveries of potash to its American customers, paying fines for the excess over its allotment. The syndicate was, however, granted the option after January 1, 1908, of assuming the contracts calling for current delivery, while the new syndicate, should one be organized in 1909, was to have the option of assuming all the sixty-five or seventy contracts. The syndicate chose to make use of its option and, upon January 1, 1908, assumed the Sollstedt contracts as binding. Delivery proceeded smoothly for a time, but in June came an unusual influx of orders from the Sollstedt customers, and a corresponding decrease in the orders from those customers of the syndicate who were bound by contract to secure from it their total potash requirements. The officers of the syndicate concluded immediately that

<sup>1</sup> Berliner Jahrbücher, 1906, p. 96; 1907, p. 121; K. R., vol. v, pp. 231, 390, 559, 560.

<sup>2</sup> Statement in behalf of the Syndicate, p. 9.

the Sollstedt customers intended to resell potash to purchasers already obligated to the syndicate, — a conclusion strengthened by complaints of discrimination. The syndicate did not propose to allow any surplus for resale and accordingly restricted deliveries. Sollstedt's American customers protested against this violation of contract and refused to acknowledge the transfer of the contracts to the syndicate. Sollstedt, contrary to contract, resumed independent delivery in July, pointing out that the alleged intended breach of contract on the part of the syndicate's customers did not call for the violation of another agreement, in order to punish the offenders. Owing to the fact that Sollstedt had deposited large security guaranteeing delivery, the Americans could exert considerable pressure. The syndicate accepted the situation without further action at the time.<sup>1</sup>

The trouble with Sollstedt, tho the most serious encountered during the existence of the fourth syndicate, by no means stood alone. The mines Rossleben and Ronnenburg which also applied for admission to the syndicate in 1905, settled the quota problem by a compromise and became members in March, 1906.<sup>2</sup> In the same year the Kaliwerk Friedrich Franz entered, in which the government of Mecklenburg was chief stockholder; and the Prussian fisc, in order to strengthen its position in the syndicate, bought the mine Hercynia.<sup>3</sup> The influence of the group of newer mines had been constantly increasing, and at the general assembly in November, 1906, they were able to elect a majority of the supervisory council.<sup>4</sup> They proceeded to make

<sup>1</sup> American Fertilizer, Feb. 25, 1911, p. 32; Statement of the Syndicate, p. 10; K. R., vol. vi, pp. 649, 743, 744.

<sup>2</sup> K. R., vol. iv, pp. 24, 93.

<sup>3</sup> K. R., vol. iv, pp. 23, 24.

<sup>4</sup> K. R., vol. iv, p. 32.

use of their power in an attempt to introduce a reorganization of the syndicate's technical and mercantile policy. This was much facilitated by the change in general directors in February, 1907, following a long dispute and a series of complaints of favoritism to the older mines.<sup>1</sup> But the competition of Sollstedt and the Deutsche Kaliwerke, which threatened the very existence of the syndicate, directed efforts toward inducing these to enter the fold.<sup>2</sup> The agreement with Sollstedt has been mentioned. The set of reforms advocated by the Deutsche Kaliwerke were given up, as in the case of Sollstedt.<sup>3</sup> The question in dispute was finally limited to one of quotas. After appraisal by a special commission and several conferences, the long protracted negotiations came to a close. The syndicate ratified the entrance of Sollstedt and Deutsche Kaliwerke on June 19, 1907. A few months later, in November, three new mines were added to the syndicate membership.<sup>4</sup>

The year 1908 brought no halt to the increase in the facilities for the production of potash. But the older members of the syndicate were surprised when they heard that a group of capitalists representing the powerful agrarian association, the Bund der Landwirte, had purchased extensive potash properties with the intention of establishing still another potash mine.<sup>5</sup> In view of the distinctly friendly attitude which the syndicate had always shown toward the agrarian associations, it was not to be expected that they would seriously consider competing with the syndicate. The syndicate was successful during the year in inducing all "out-

<sup>1</sup> For particulars see K. R., vol. v. pp. 134, 166, 232, 306.

<sup>2</sup> K. R., vol. v. pp. 103, 166, 306, 391.

<sup>3</sup> K. R., vol. v, p. 33.

<sup>4</sup> K. R., vol. v, pp. 559, 560.

<sup>5</sup> Berliner Jahrbücher, p. 141; K. R., vol. vi, p. 292.

siders" to become members of the organization. At the close of 1908, there were forty-nine mines in operation all of them syndicate members; sixty-five companies in addition had already begun borings and shafts.

A distinct development of the potash industry in this period, was the organization of companies to buy up potash lands in order to prevent the establishment of more mines. Several of the newer mines, headed by the Deutsche Kaliwerke, organized a company (*Vereinigungsgesellschaft für Kalibergbau*) to buy up potash properties with the express purpose of demanding in return for not developing them, an excess quota from the syndicate, so that reasonable interest on the investment in potash properties could be paid.<sup>1</sup> A group of the older mines also formed a similar association, the *Schutzbohrergemeinschaft*. Its offer to sell the fields it had acquired to the syndicate was rejected.

The continued over-development of facilities for potash production was due to a complex of causes rather than to any single factor. Various peculiarities of the potash industry have made it a favorite for investment and speculation. The participation of the government in the industry and the patriotic desire to invest in home enterprises doubtless had an influence. But Germany's possession of a natural monopoly and the unusual profitableness of the industry have certainly been prime factors. Dr. Pinner gives interesting figures.<sup>2</sup> In 1906, which he considers a normal year, the average profits of twenty-one mines was 15.9 per cent, while dividends of 13.5 per cent were

<sup>1</sup> K. R., vol. v, pp. 638-639, 785-787.

<sup>2</sup> Article in *Die Bank*, 2 Jhrg. Heft 2, 1909, pp. 133-145; summarized in *American Fertilizer*, 1909, Sept., p. 20.

declared.<sup>1</sup> Within two years the average dividends were decreased to 9.5 per cent, because of the increase in the number of mines and the decreased average output. Upon the basis of expert opinion, Dr. Pinner states that the cost of production of potash salts varied from 40 to 60 per cent of selling prices. With the smaller average output per mine in 1908, the proportion was somewhat higher, but still low as compared with other mining industries.<sup>2</sup> Potash mine owners do not neglect to make large deductions for amortization and depreciation.<sup>3</sup>

The fact that the capital required for developing a potash mine is considerable seems to have had little effect in checking production. The capital stock of each of the twenty-one mines mentioned above was, with one exception, in excess of \$400,000; the average was well over \$1,000,000. The average cost of a boring ranges from \$15,000 to \$25,000, and one at least must be made preliminary to the sinking of a shaft. The risks of the potash industry were insufficient to check investment, altho they are of a peculiar nature, especially the danger of water dissolving the salts.

In addition to the unusual profitableness of the industry, one must mention among the inducements to speculation the attempts of the Prussian government to regulate the industry. Reference has been made to the Gamp law. Prominent among the arguments of its proponents was that the passage of such a measure was the only means of preventing potash fields from being monopolized by private individuals. The objection to the law, that a large number of boring companies

<sup>1</sup> The averages are probably somewhat too large. Cf. Bericht der 9. Kommission. Aktenstücke zu den Verhandlungen des Reichstages, Nr. 475, 1909-10, pp. 2430-2431.

<sup>2</sup> Compare Aktenstücke, Nr. 475, 1909-10, cited above, pp. 2418-2422.

<sup>3</sup> Groth, pp. 18 et seq.

would be destroyed, was not borne out. Instead, the law greatly increased the value of their holdings. An instance is reported in which the International Boring Company, at Erkelenz, working with a capital of 1,000,000 marks, had acquired a large number of potash fields, and sold them several months after the enactment of the law for 35,000,000 marks.<sup>1</sup> Tho the *lex Gamp* was superseded July 8, 1907, by a new mining law, its provisions were in essentials continued.<sup>2</sup>

The extension of the police requirement that every mine have at least two passable exits was also instrumental in increasing the number of mining companies.<sup>3</sup> The construction of a second shaft necessitated for many mines a large outlay of capital. Since the ordinance could be complied with by connecting two adjoining mines underground, this method was adopted by some of the mines.<sup>4</sup> Other mines holding extensive tracts of land complied with the law by constructing a second shaft, but, in addition, organized a subsidiary company to take charge of it, and the new company proceeded to demand an independent quota from the syndicate. Among the members of the syndicate which adopted the latter course were Burbach, Westeregeln, Glückauf-Sondershausen, Aschersleben, New-Stassfurt, and Rossleben.

## V. THE RENEWAL NEGOTIATIONS, 1908-1910

Negotiations concerning the renewal of the syndicate began nearly a year and a half before final decision was necessary, — in itself striking evidence that great

<sup>1</sup> Berliner Jahrbücher, 1905, pp. 107 et seq.

<sup>2</sup> For the laws affecting the mining of potash, see Anlage 34 zu Nr. 475. Aktenstücke, 1909-10, pp. 2462-2465.

<sup>3</sup> Berliner Jahrbücher 1907, p. 123; 1908, p. 138. Also K. R., vol. vi, p. 450.

<sup>4</sup> Cf. Aktenstücke, Nr. 475, 1909-10, pp. 2436-2437.

difficulty was expected.<sup>1</sup> At a general meeting of the syndicate on January 14, it was decided that the supervisory council should submit before May 1 the draft of a new contract. Pending the outcome of the negotiations, the council succeeded in inducing ten mines to refrain from "outside" sales till June 30, 1909. In the hope of strengthening their influence in the syndicate, a number of the mines began to divide their ownings, intending to use the fields controlled by subsidiary companies as defense against the reduction in quota which was bound to come. As an instance, Glückauf-Sondershausen announced its intention of transferring its reserve fields to six subsidiary *Gewerkschaften*. The supervisory council proceeded to ask each mine owner to hand in a written statement of his suggestions for reform.<sup>2</sup> In the replies, the evils of the existing situation were evidently recognized by all, but the proposed remedies revealed much divergence of opinion.<sup>3</sup> The propositions of a group of Hanoverian mines, to which ten or eleven mines expressed complete agreement, give some light on the points of controversy. They advocated the creation of a second council (*Beirat*) to relieve the supervisory council of some of its many duties under the old organization. The duration of the new syndicate should be ten years. The admission of new members was to be left to an arbitration board. Products were to be sold under certified analyses. Transfer of quotas from one mine to another (under restrictions) was to be facilitated. All these propositions, as well as sundry others, were actively opposed. Transfer of quotas was especially

<sup>1</sup> K. R., vol. vi, pp. 206, 286; vol. vii, pp. 261, 345, 443.

<sup>2</sup> K. R., vol. vi, p. 288.

<sup>3</sup> K. R., vol. vi, pp. 364, 117 et seq. Cf. in this connection Emil Sauer's proposals K. R., vol. vii, pp. 102 et seq.

opposed by the fiscal representatives on the ground that it would further the "Vertrustung" of the industry. It would undoubtedly have increased consolidation, and the government's fear of having several less efficient plants shut down, and a number of laborers thrown out of employment thereby, was a chief factor in determining its attitude. Another proposal was that each mine should receive an additional quota for each undeveloped potash field in its possession. The adoption of such a measure would have greatly altered the appearance of the allotment table. For instance, Glückauf-Sondershausen, owning 258 fields, had at the time a smaller quota than another mine with only four.

During the spring and early summer of 1908, the committee of the supervisory council in charge of the renewal negotiations worked constantly to eliminate as much of the friction as possible. The Prussian government had early expressed its opinion that renewal of the syndicate was by all means to be desired; doubt as to the attitude of the fisc was no longer a deterrent factor. It had been stated frankly that should the fisc decline to become a member of a new combination, the chances were overwhelmingly against its formation. The expressed wishes were, as far as possible, embodied in the draft of a new syndicate contract which was submitted to the supervisory council at Eisenach on July 2.<sup>1</sup> According to its provisions, the power of the potash syndicate was to be extended from the sale and purchase of potash to the acquisition of property and other rights. Potash products should be sold according to analyses of their exact chemical content. It was planned to create a second council

<sup>1</sup> Berliner Jahrbücher, 1908, p. 141.



(Beirat) to assist the supervisory council. The seat of the syndicate was to be changed from Stassfurt to Berlin, — a concession to the younger mine owners, who believed that there the connection between the syndicate and Ministry of Commerce would be more intimate, and that the syndicate would be in closer touch with the great agricultural associations having central offices in Berlin. Of more importance was the proposed freedom to transfer quotas from one mine to another, when owned by the same firm.

The renewal negotiations were in the main a repetition in intensified form of those in 1903 and 1904.<sup>1</sup> As before, a new agreement must be concluded before June 30 of the year of expiration, in order to avoid the complication of outside sales. The hope of speedy renewal vanished as the months passed, and the entire second half of the year was devoted to discussion of the plan of reorganization; the chief question, that of allotments, was shelved until an agreement on other points should be reached. Among the mass of articles and reports which filled the press, an article of Dr. Wächler, the chairman of Salzdethfurth, one of the older mines, attracted special attention. Pointing out that the syndicate was not in a position to avoid overproduction, he declared that the régime of competition was the only remedy. The elimination of all the less capable companies would place the industry once more on a firm basis. But the opponents of Wächler's view claimed that the excess of mining facilities was the fault of legislation, not of the syndicate, and that price cutting would deprive Germany of all advantage from her natural monopoly. They also stated that free competition would cause enormous losses to a great

<sup>1</sup> K. R., vol. vi, pp. 1043 et seq.

number of security holders interested in the prosperity of the industry.

When the commission of the syndicate met on January 5, 1909, three sub-committees were chosen, one to deal with the hotly contested question of changing the domicile of the syndicate, a second with the question of the increased utilization of carnallite (urged by the carnallite mines, which felt that their product was not being actively pushed) and a third with the question of the size and transfer of allotments. On April first, a new syndicate plan was published, which left the question of location open, but proposed changes allowing transfer of quotas between the groups of products and between mines. After a discussion by the full commission, and restriction of the right of transfer to suit the Prussian Minister of Commerce, the general assembly, consisting of representatives of all mines belonging to the syndicate, and others about to enter, took up the most difficult problem, the allocation of allotments.<sup>1</sup> It was strongly urged that the old allotment table be taken as a basis and that quotas for the new mines be provided for by a 10 per cent horizontal deduction from the quotas of the older mines, the required balance to be assigned pro rata. But this scheme, as well as others proposed, failed of acceptance, and the allotment question was again referred to a committee, which prepared accordingly a new allotment table, but with as little chance of acceptance as before.

Since there was little doubt that lower prices would follow the dissolution of the syndicate, American potash buyers could hardly be expected to favor its continuance. All the pressure which could be brought to bear on the situation was exerted against the combination. The

<sup>1</sup> *Berliner Jahrbücher*, 1909, p. 167.

Virginia-Carolina Company owned 702 of the 1000 shares of Einigkeit, controlling therefore that mine. Nothing substantial appears to have come out of the rumored negotiation between the mine Teutonia and the American Agricultural Chemical Company; the rumor caused a flurry of excitement and the publication of numerous articles under such captions as "Vaterländische oder Amerikanische Bodenschätze?" with repeated patriotic warnings against the invasion of foreign capital. This had the material result some time later of causing such transfers of mining property to foreigners to be dependent on official sanction. That American influence was exerted against the syndicate is shown more distinctly in the transactions concerning Sollstedt and Aschersleben. The chief stockholder, H. Schmidtman and his son, W. Schmidtman, had long been dissatisfied with syndicate management. They wanted to operate at full capacity. The American market was a favorite because of its great capacity to absorb potash, and the high potash content of the wares demanded. Schmidtman had already secured a huge slice of the American trade by the "outside" sales of Sollstedt in 1905-06. With some of the American independents he had contracts for delivery up to 1917. Consequently he was not at all averse to the idea of combining the independent buyers. Should such a combination be formed he would contract to furnish potash at low prices. This would please the American potash buyers. Schmidtman would have long time contracts for deliveries of potash, and would be entrenched against the revulsion which might follow the dissolution of the syndicate; if renewal were effected, he was in a position to force the syndicate to accede to his demands. However, the attempt of W. Schmidtman and C. F. Meadows of Baltimore to organize

the Independent Fertilizer Company in the fall of 1908 fell through. A second attempt to combine the independent fertilizer manufacturers in the U. S. Agricultural Corporation, chartered in April, 1909, also bore no result. The third attempt was successful. Between midnight June 30 and daylight July 1, presumably, the International Agricultural Corporation with W. Schmidtman as president and C. F. Meadows as treasurer came into being, having obtained possession in that same short space of time of the Sollstedt mine, and sold potash which it had bought from Sollstedt. America was, and is, outside of Germany itself, the syndicate's biggest customer. Its influence, exerted at a critical period in the life of the combination, had the inevitable effect of increasing the difficulties of renewal.

In spite of all the complications, it was believed that the syndicate would be renewed at the meetings to be held the last of June.<sup>1</sup> Prospects brightened during that month. Many of the special demands were withdrawn and differences compromised. When the final meeting convened at Berlin, potash buyers from many countries had assembled in the imperial city to await the outcome of the negotiations, the American delegation being conspicuous.<sup>2</sup> Their purpose was clear. In the event of the dissolution of the syndicate a price war would be the probable result, and buyers on the spot would be able to secure cheap potash. The meeting on June 29 was devoted to the discussion of allotments. Negotiations were resumed on the following day. By ten o'clock that evening, thirty-five mines had signified their willingness to enter on the terms offered. At eleven, the Prussian fiscal representative

<sup>1</sup> *Berliner Jahrbücher*, 1909, pp. 168, 682.

<sup>2</sup> *American Fertilizer*, July, 1909, p. 23.

announced that unless there was unanimous agreement by midnight, he would proceed to make independent sales. After a dramatic session, the obstinacy of one mine owner defeated the efforts at renewal.<sup>1</sup> The remaining representatives (of forty-one mines) agreed informally not to make any sales independently until after July 1. On July 1, it was learned that the representatives of the Westeregeln group, the Einigkeit, and the Schmidtman mines, Aschersleben and Sollstedt, had made large independent sales of potash after leaving the hall at midnight. This added complication precluded the possibility of organizing a new syndicate on July 1. But the provisional agreement was continued to July 8 and then extended to July 24.<sup>2</sup> In the meantime the German government had threatened to levy an export duty on potash, and the Westeregeln group had succeeded in annulling its "outside" contracts. Upon July 24, a new syndicate was organized, not including Sollstedt, Aschersleben and Einigkeit, — those mines in which American influence was strongest. It was to be located at Stassfurt and its continuance was contingent upon the satisfactory adjustment by the three outsiders before September 30, of their independent sales.<sup>3</sup> But nothing having been accomplished, a "Kampf-syndikat" was formed without them (on September 30).

Sollstedt, through the International Agricultural Corporation, its owner, proceeded to sell potash to all the independent buyers with whom it had previously contracted, on the same terms as had been granted to the American Agricultural Chemical Company.

<sup>1</sup> Berliner Jahrbücher, 1909, p. 168; K. R., vol. vii, p. 683.

<sup>2</sup> K. R., vol. vii, p. 723.

<sup>3</sup> K. R., vol. vii, pp. 723, 799. Berliner Jahrbücher, 1909, p. 169. For the charges of the syndicate against Schmidtman, see K. R., vol. vii, pp. 840-841.

The total of the contracts (including those of *Einigkeit* and *Aschersleben*) involved seven or eight million dollars and called for about 120,000 tons of pure potash, or four-fifths of the annual American importation. The contracts, binding for two years, were provided with options on a five year extension.<sup>1</sup> The unsuccessful attempts of a German commission<sup>2</sup> sent over in August to induce the Americans to give up their valuable contracts, — valuable because the prices quoted were about 30 per cent lower than current syndicate prices.<sup>3</sup> The fact that the syndicate policy of making the export trade pay the largest part of the profits did not operate as nicely when two-fifths of the export trade was taken away, the arguments concerning the dissipation of a national resource, the strengthening of foreign nations at the expense of the Fatherland and the like, — all these increased the clamor for legislative interference. As a result, the Prussian government submitted in December a proposed imperial potash law to the Federal Council of the Empire. Tho the idea of a direct export tax was given up, the bill proved especially displeasing to the Hanoverian faction; and since it practically nullified American contracts, the opposition which developed caused its withdrawal.<sup>4</sup>

A second committee of the syndicate, which came over to America in December, was as unsuccessful as the

<sup>1</sup> Statement of the Potash Syndicate, p. 15. Also lxxxix Chron. 412; xc Chron. 630. K. R., vol. viii, pp. 243, 331.

<sup>2</sup> American Fertilizer, August, 1909, p. 8; K. R., vol. vii, p. 799.

<sup>3</sup> Statement in behalf of the Potash Syndicate, p. 15. The price for muriate of potash was about \$20.30 per ton. The syndicate price at the time was about \$33.00 per ton. See also American Fertilizer, Dec. 3, 1910, p. 20.

<sup>4</sup> Deutsche Ökonomist, vol. xxviii, pp. 24, 110; K. R., vol. vii, pp. 840-841. Statement of the Syndicate, p. 11. Berliner Jahrbücher, 1909, p. 170.

first.<sup>1</sup> About this time treaty negotiations in connection with the Payne-Aldrich Tariff were in progress. Following the exchange of a number of informal notes, the United States representing that an export duty would be considered undue discrimination against American trade, the State Department was reported, on January 17, to have received assurances that the German government would not press its scheme of levying an export tax. Germany was soon after accorded the privilege of the minimum tariff.<sup>2</sup>

On February 4, the draft of a new potash law was brought before the Reichstag by the Federal Council. After a lively debate (February 14 and 15, 1910), in the course of which it became clear that the low price American contracts were at least the occasion of the bill, it was referred to a committee of twenty-eight.<sup>3</sup> Much altered, it came back to the Reichstag and was passed on May 25, 1910, going into force three days later.<sup>4</sup>

The potash law, thus finally enacted<sup>5</sup> provides for imperial control over the production and selling prices of potash salts until December 31, 1925. The allocation of allotments becomes the duty of the "königliche Verteilungsstelle," a commission of which the chairman and two other members are chosen by the Chancellor, subject, however, to ratification by the Federal Council. The other members are chosen by the mine owners.<sup>6</sup> The Verteilungsstelle estimates a total output sufficient

<sup>1</sup> American Fertilizer, January, 1910, p. 18. K. R., vol. viii, p. 33.

<sup>2</sup> American Fertilizer, February 15, 1910. Also xc Chron. 1557, K. R., vol. ix, pp. 35, 149.

<sup>3</sup> Berliner Jahrbücher, 1910, p. 145; Deutsche Ökonomist, vol. xxviii, pp. 24, 25, 109.

<sup>4</sup> For the report of the commission, see Bericht der 9 Kommission, Anlage Nr. 475, zu Stenographische Berichte usw. 1909-10.

<sup>5</sup> Text of the law in Reichstagsverhandlungen, Nr. 219 der Drucksachen 1909-10, also reprinted in Kartell-Jahrbuch, Bd. i, Heft 2.

<sup>6</sup> Cf. Abschnitt I, §§ 7, 8.

to supply the world's demand, and apportions it among the potash producers. For the same mine, the percentages of domestic and export output must be the same, in order to prevent the possibility of any mine devoting itself exclusively to the export trade.<sup>1</sup> For the current year a scale of prices which should serve as the maximum for domestic and as a minimum for export, was embodied in the law.<sup>2</sup> Any potash mine which delivers salts in excess of its legal allotment must pay into the imperial treasury a tax of from ten to eighteen marks for every doppelzentner in excess of its quota.<sup>3</sup> This is in addition to the regular (and almost nominal) tax of sixty pfennige per doppelzentner levied upon the total output of potash, whose proceeds go to pay the expense of administration of the law, any excess being used for propaganda purposes.<sup>4</sup> The Federal Council is empowered to lower the surtax in the case of contracts executed before December 17, 1909, so that the contract prices plus surtax shall not exceed the prices current before June 30, 1909.<sup>5</sup> For the purpose of checking the increase in the number of producers, the law provides that a new mine shall receive an allotment from the first, but one smaller than its capacity would entitle it to demand.<sup>6</sup> Not until the third year shall full allotments be granted.<sup>6</sup> Mines with two shafts shall receive a 10 per cent addition because of the second shaft.<sup>7</sup> Allotments may be transferred between groups of products or transferred or exchanged with other mines;<sup>8</sup> but the transfer of over half an allotment requires official consent.

As an example of social legislation, another provision requires attention.<sup>9</sup> It is provided that whenever a potash mine reduces wages or lengthens the time of

<sup>1</sup> Abschn., I, § 8.<sup>2</sup> Abschn., II, § 20.<sup>3</sup> § 26.<sup>4</sup> § 27.<sup>5</sup> § 46.<sup>6</sup> §§ 12, 13.<sup>7</sup> § 11.<sup>8</sup> § 17.<sup>9</sup> §§ 13, 14.



employment, its quota is to be reduced by the Verteilungsstelle, on the ground that such action is *prima facie* evidence that capacity has decreased. In the decision, the Verteilungsstelle must call in two labor representatives to act as part of the court. Employees in mines or factories which close because of transfers of allotments are entitled to compensation from the mine owners, up to the amount of twenty-six weeks' pay.

The law provided for no compulsory syndicate. But under the altered conditions which it brought about the Kampf-syndikat of September 30, 1909, was dissolved, and a new one came into existence on June 7, 1910.

## VI. THE POTASH CONTROVERSY BETWEEN GERMANY AND THE UNITED STATES

The potash sold to Americans by the Aschersleben, Sollstedt, and Einigkeit mines was in amount far in excess of their quotas under the new law. The greater part, hence, was subject to the supertax, which nearly equalled the selling prices of the salts. The mines Aschersleben and Sollstedt refused to continue deliveries unless the Americans would assume the tax. The American holders of low price contracts would not agree to this, since assumption would mean their paying higher prices for potash than those who bought from the syndicate.<sup>1</sup> They denied that the tax was a charge of the nature implied in their contracts, the wording of which was "that any governmental duty should be assumed by the buyers." They maintained it was a penalty for violation of a German law.<sup>2</sup> Expert legal

<sup>1</sup> K. R., vol. viii, p. 771.

<sup>2</sup> American Fertilizer, August 10, 1910, p. 22.

opinion on both sides of the Atlantic split on the question. In Germany the majority held the Americans to be liable for payment of the tax; in America the opposite opinion prevailed. The necessity of securing potash for current requirements forced the Americans to pay the tax which they did under protest.

Fertilizer interests in this country denounced the law as a practical repudiation of contracts made in good faith, and appealed to the State Department for aid. As soon as the matter could be taken up, in the fall of 1910, it became evident that the Germans did not wish to concede any more ground than was absolutely necessary. The Federal Council refused to consider a reduction of the supertax in the case of the options, according to which the buyers had demanded a five year extension of contracts, in June, 1910.<sup>1</sup> A commercial representative of the State Department, accompanied by a group of fertilizer manufacturers proceeded to Europe in September. He declared two months later that no settlement could be made; that the application of the maximum clause of the tariff act of 1909 was in order, since the German law clearly was discriminatory against America.

The controversy reached so acute a stage in December that President Taft submitted the whole matter to the Cabinet. Protests of fertilizer manufacturers, of farmers and other potash consumers continued to arrive at the State Department. Upon January 20, 1911, the potash syndicate presented a statement<sup>2</sup> for the consideration of the President and the Secretary of State. In contrast to the inflammatory protests of American fertilizer manufacturers, the syndicate's

<sup>1</sup> *Berliner Jahrbücher*, 1910, p. 150; *K. R.*, vol. viii, p. 571.

<sup>2</sup> Statement in behalf of the Potash Syndicate. Dated January 20, 1911. Cf. also *K. R.*, vol. ix, p. 221.

brief was a sober and dignified presentation of the case; tho the inclusion of a number of misstatements and assertions insufficiently proved laid it open to attack.<sup>1</sup> But it seemed that the crisis had passed. The demand of our State Department for a definite statement from the German government elicited a reply which was not made public, but seems to have led to the adoption by our government of the attitude which the German had maintained, namely, that the affair was one to be settled by the parties concerned, and not by international diplomacy. After a series of conferences at Hamburg, an agreement between the Americans (except the International Agricultural Corporation) and the syndicate was reached.<sup>2</sup> Before the controversy could be finally settled, it was necessary to arrange matters with the Aschersleben and Sollstedt mines, which still insisted upon delivering potash subject to the supertax. But negotiations progressed so rapidly that a compromise was soon agreed upon.

The provisions of this final settlement<sup>3</sup> were in brief, (a) the withdrawal of all suits in our courts involving liability for the payment of the potash tax levied by Germany; (b) the assignment to the syndicate of the American contracts with independent mines; (c) new contracts with the syndicate, covering full American potash requirements for five and one-half years on a price basis practically the same as that prevailing before the low price contracts were obtained from the independent mines; and (d) the reëntree of the independent mines Sollstedt and Aschersleben into the syndicate. Aschersleben bought one-half of the Sollstedt shares from the International, and upon January 1, 1911,

<sup>1</sup> Cf. for instance *American Fertilizer*, January 28, February 10, February 25, 1911.

<sup>2</sup> xcii Chron. 1438. Also *Kartell-Jahrbuch*, Heft 2, p. 134; xcii Chron. 1525; K. R., vol. ix, p. 493.

<sup>3</sup> xciv Chron. 70.

Sollstedt entered the syndicate. The German government agreed to refund about 60 per cent of the supertax held in escrow in American banks. Aschersleben received 1,050,000 marks from the American Agricultural Chemical Company and the same amount from the International in return for its consent to annul the "low price contracts."<sup>1</sup>

The Einigkeit mine, one of those which made independent sales, was not much involved in the controversy. The low price sales to the Virginia-Carolina Company were insufficient to cover requirements. Forced to buy the balance of its potash from the syndicate, an amicable arrangement was made in 1910, whereby Einigkeit became a member of the syndicate December 31 of that year, paying a sum of about \$50,000 to the syndicate as a compensation for "outside" deliveries already made.<sup>2</sup>

## VII. THE WORKING OF THE POTASH LAW OF 1910

The potash law was not a measure concocted on the spur of the moment to deprive American potash buyers of the benefit of their contracts. Legislation and combination had long been directed to the purpose of preventing ruinous competition among potash enterprises. The law was merely the culmination of a movement toward conservation. No doubt action was hastened by the low price American contracts. Technically, the law was not discriminatory. It applied to all potash in excess of the legal quota of a mine, whether for domestic or export trade. The payment of the tax

<sup>1</sup> *Kartell-Jahrbuch*, Bd. ii, Heft 3, p. 265. The account of the settlement in U. S. Consular and Trade Reports differs in certain minor details from that given above. (Nov. 11, 1911, p. 761.) Cf. also Consular Reports, November 25, 1911, vol. xciv, p. 70.

<sup>2</sup> *Kartell-Jahrbuch*, Bd. i, Heft 4, p. 45; *K. R.*, vol. ix, p. 125.

was a question of contractual liability and the fact that Americans were chiefly involved was no proof of truth in the accusation of undue discrimination.

But if the law was successful in preventing low price potash sales, it was in other respects far from being as successful as its originators predicted. Instead of checking the continued increase of new mines, its effect was similar to that of previous attempts at legislation, in furthering the evil it was intended to prevent. As soon as it went into effect a new wave of development began. Not only were vacant fields divided and subdivided to form bases for new enterprises, but the syndicate mines also proceeded to divide their properties to a greater extent than before, founding new subsidiary companies with extra quota demands. Since a concern was legally entitled to a larger quota if two or more shafts were operated, and since, under the law, each new mine was guaranteed a quota, it became necessary for any mine which did not wish to have its quota reduced below a level which would leave a profit, to establish two or three subsidiary companies. Instances are numerous. Aschersleben divided its possessions to form four new enterprises. Out of the original properties of the *Gewerkschaft Hugo* a full half dozen mines were formed by division. From the *Gewerkschaft Amélié* eleven new undertakings have been organized, and the list might be continued.<sup>1</sup> With the honorable exception of Prussia, governments have been as great sinners as private enterprises in the promotion of new mines. Anhalt has four and plans two more. In April, 1911, in addition to the sixty-nine syndicate mines, seventy-nine were in process of construction, and about fifty more had either completed

<sup>1</sup> K. R., vol. xi, pp. 201, 198.

or were making borings.<sup>1</sup> A year later, ninety-seven mines were prepared to deliver potash, and a hundred and thirteen were in process of construction.<sup>2</sup> Dr. Paxmann stated in the spring of 1913 that one hundred twenty-seven mines were operating, one hundred thirty-two in construction.<sup>3</sup> The failure of the law in this regard is unmistakable.

The potash law had another effect not desired by its promoters, that of furthering concentration within the industry. The extension of the movement toward concentration which had become a feature of coal mining and banking, was much delayed by the hostile attitude of the syndicate of 1904, — an attitude inspired by the fiscal representatives, opposing transfer of quotas. Yet the opposition of the syndicate had not been sufficient to keep away concentration entirely. The fear of the loss of influence shared by the fiscal mines, should the private enterprises be free to combine, added little to the deterrent influence. During 1905 certain mines secured control of others by means of stock ownership. Westeregeln backed by the Mitteldeutsche Kreditbank acquired three-fourths of the shares of the new mine Rossleben. The Schmidt-mann mine, Aschersleben, purchased the shares of the mine Sollstedt; and other instances might be given.<sup>4</sup> Yet until 1909, there had been little immediate advantage, except as investment, from the control of one mine by another. Concentration of production was practically prohibited, despite the fact that mines were operated at only a third or quarter of their capacity.

The freedom granted by the potash law in the matter of transferring quotas was a great incentive to concentration. Mines began to buy up quotas or controlling

<sup>1</sup> K. R., vol. ix, p. 401.

<sup>2</sup> K. R., vol. x, p. 472.

<sup>3</sup> K. R., vol. xi, pp. 43, 202.

<sup>4</sup> K. R., vol. iii, p. 325.

interests in other mines. The Wintershall mine, to which belonged the mines Heringen and Heiligenroda, acquired a majority of the shares of Bismarckshall, and secured control over five other mines. Later it was reported to have obtained control over two subsidiary companies of the Gewerkschaft Amelié.<sup>1</sup> The fusion of the Deutsche Kaliwerke concern and the Amelié was another notable instance. In the next year, 1912, the movement continued, the cases most discussed being the combinations Einigkeit-Prinz Adalbert,<sup>2</sup> and Burbach-Krügershall.<sup>3</sup> In nearly every case, the combination of mines was accomplished by means of stock ownership.<sup>4</sup> The purpose was usually at least one of three: (a) to save capital outlay in the construction of the second shaft required by the police ordinance; (b) to transfer or exchange quotas so as to concentrate production in the best situated mine; (c) joint ownership and administration of power plants and branch railroads, or division of risk.

Denunciations of the potash law began six months after its passage and have grown in number and vehemence.<sup>5</sup> The opinion is now freely expressed that the potash law is a failure; that in order to make a small saving, it has induced speculation and waste of millions. The government finally recognized that the law had not been operating as intended, in a speech of Minister of Commerce Delbrück.<sup>6</sup> The potash industry became the object of a two days' debate<sup>7</sup> in which a lively discussion as to the employment of the propaganda money

<sup>1</sup> Berliner Jahrbücher, 1910; K. R., vol. ix, pp. 38, 224.

<sup>2</sup> K. R., vol. ix, p. 566.

<sup>3</sup> K. R., vol. x, p. 165.

<sup>4</sup> K. R., vol. x, p. 387.

<sup>5</sup> K. R., vol. ix, p. 401.

<sup>6</sup> Stenographische Berichte des deutschen Reichstages, 19. Sitzung 4 März 1902, p. 447; 20. Sitzung, 5 März 1912, p. 485. (Bd. 283.)

<sup>7</sup> Stenographische Berichte, etc., 29. Sitzung, 30. Sitzung, pp. 470 et seq.

was a prominent feature. The tax of sixty pfennigs had yielded a sum much larger than was deemed necessary for propaganda purposes. Proposals to reduce this tax, to allow the excess to go into the imperial treasury, to spend the money more freely, as well as the more important debate on the general ill-success of the law brought at the time about no amendment. Debate was resumed in January of this year (1913), and finally a resolution was adopted to the effect that any reform or amendment to the potash law should be binding for all mines commenced after January 15, 1913.<sup>1</sup> Hanoverian conditions present some difficulty but it is generally expected that an amendment or revision of the imperial potash law so as to remedy some of its weaknesses will be forthcoming in the near future.<sup>2</sup>

### VIII. CONCLUSION

In its influence on prices, the potash syndicate has differed somewhat from other Kartells. Except for very short periods, export prices have been higher than domestic. Having a monopoly of the products, there has been no necessity for a resort to the "dumping" which has been a practice of the steel and coal Kartells. This has always proved an effective pro-syndicate argument. Prices have certainly been steadied. Statistics of prices show no decline in the price of muriate of potash since the formation of the first agreement in 1879, and none on carnallite since 1888, the date of the formation of the first syndicate.<sup>3</sup>

<sup>1</sup> K. R., vol. xi, pp. 111-113.

<sup>2</sup> Meanwhile a memorial prepared by Dr. Paxmann is attracting attention. He advocates a license system by which a government concession, to be granted only when the demand for potash warrants it, shall be required for opening up a new mine. K. R., vol. xi, 1913.

<sup>3</sup> The following figures are given by Paxmann (p. 125):



The potash syndicate has at all times attempted to secure the maximum gain, but has realized that the demand for agricultural purposes is capable of great expansion, and that the highest prices may not be the most profitable. In general, potash prices, tho not to be classed as extortionate, are said to have been higher than the demand for the product, the cost of production, or the interests of the industry itself justify. The fact that mines running at much lower than normal capacity could, in 1906, pay dividends averaging 13.5 per cent; that the cost of production was a considerably smaller part of the selling price than in other mining industries; the fact that Schmidtman and others could contract to deliver large quantities of potash at 30 per cent below prevailing prices, with the expectation of still securing profit therefrom, — all these indicate a range of prices above the competitive level.

Year	Price of Carnallite in marks per Doppelzentner	80 per cent Muriate of Potash Marks per Doppelzentner	Year	Price of Carnallite in Marks per Doppelzentner	80 per cent Muriate of Potash Marks per Doppelzentner
1861	1.60	36.00	1881	1.00	12.70-16.00
1862	1.60	30.00	1882	1.00	14.50
1863	0.80-1.60	27.00	1883	1.00	13.50
1864	0.80	24.00-19.50	1884	1.12	13.26
1865	0.80	19.50-12.50	1885	1.12	13.36
1866	0.80	12.50-13.00	1886	1.12	13.32
1867	0.80	12.50-13.00	1887	1.12	13.34
1868	0.80	12.70-13.20	1888	0.80	13.38
1869	0.80	13.00-14.50	1889	0.80	13.43
1870	0.80	13.80-18.50	1890	0.80	13.45
1871	1.10	18.16-18.50	1891	0.80	13.45
1872	0.80-1.20	18.70-16.20	1892	0.90	13.88
1873	0.80	16.00-12.00	1893	0.90	13.88
1874	0.80	13.00-12.50	1894	0.90	13.88
1875	0.80	12.50	1895	0.90	13.88
1876	0.80	12.00	1896	0.90	14.25
1877	0.80	11.00	1897	0.90	14.25
1878	0.80	9.20	1889-1908	0.90	14.70
1879	0.80	11.00			
1880	1.00	11.15			

The figures given in Stange (p. 95), Engelke (p. 38), and Schulze (p. 59) vary slightly from those given above.

The syndicate has had no effect in decreasing the expenses of production; its influence has actually been exerted in the opposite direction. The economies which have been effected by syndicate organization have been in distribution, — elimination of the wastes of competitive selling and increase in the effectiveness of advertising. But, tho these savings have been considerable, the syndicate and the legislation enacted in the attempt to check tendencies induced by syndicate policies have contributed to bring into existence such an over-supply of facilities for production that no net gain in efficiency has resulted. Since the demand for potash is only sufficient to give existing establishments employment much below normal capacity, there is good reason to believe that expenses of production are higher than they would be under competitive conditions, and that costs as well as prices would be lower.

Domestic consumers, as noted above, have fared somewhat better than the foreign. The influence of the government mines has always been exerted in the direction of lower prices for domestic consumers. Most favored have been the large agricultural associations, — in part, it is alleged, because of their political influence. The favoritism shown to these societies has led to many complaints from potash dealers. The syndicate finally made some concessions to the dealers in 1905, but did not place them in every particular on a footing with the agrarian associations.<sup>1</sup> After 1909, when the restrictions on combination among dealers were removed, a large number of dealers' organizations sprang up to take advantage of the rebates given for purchase in large quantities. But the agricultural associations

<sup>1</sup> Heimann, pp. 15, 35.

are still favored. The attitude of dealers has generally been unfriendly to the syndicate.

One must not neglect to give the potash combination credit for what it has accomplished in connection with its propaganda work. By the distribution of publications, exhibits at important agricultural shows, fertilizer experiment stations, and other methods, it has conducted a general educational campaign on the use of fertilizer, potash especially. The efforts of the syndicate to keep up the standard of the products and to insure prompt deliveries are also commendable.

The membership of the Prussian government has given the potash syndicate a character distinct from other Kartells. Far from being a passive member, the government has always exerted a large influence upon syndicate policy. More than once it has directed its energy toward keeping the organization intact in the numerous crises through which it has passed. In the negotiations of 1879, 1888, 1898, and 1901, the fisc took an active pro-syndicate part; when renewal came up in 1903, the Prussian fisc took the initiative; in 1908, the government early directed its influence toward renewal. It cannot be seriously doubted that, had not the Prussian government played the part it did, the syndicate would early have gone to pieces.

The opinion so often expressed during the progress of syndicate negotiations that in the continuance of the syndicate lay the only means to avoid the ruin of a number of enterprises and losses to thousands of investors, was undoubtedly correct.<sup>1</sup> But one may doubt whether or not it was wise to enter into combination to preserve the profitableness of all the undertakings, when the policy of procrastination, as one might term it, caused and will continue to cause much greater

<sup>1</sup> It is said that bankers would extend credit only to those mines whose intention to enter the syndicate was known. K. R., vol. v, p. 307.

losses. Free competition during the eighties would have been attended with losses smaller than in the decade 1900 to 1910, or none at all. The dependence of the value of potash enterprises upon the existence of the syndicate is clearly shown in the course of the market for potash securities during the past decade. It is reasonable to suppose that under the rule of competition the enormous over-investment of capital in potash enterprises would largely have been avoided. When all is said for and against the syndicate, one may doubt whether the potash industry is, as a whole, in 1913, in a more flourishing financial condition as a result of the existence of combination.

H. R. TOSDAL.

HARVARD UNIVERSITY.